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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,021	08/21/2003	William V. Dower	58238US002	7354
32692 7590 04/05/2007 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			EXAMINER PADGETT, MARIANNE L	
			ART UNIT	PAPER NUMBER
			1762	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/05/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary

Application No.

10/645,021

Applicant(s)

DOWER, WILLIAM V.

Examiner

Marianne L. Padgett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/21/2003 & 11/10/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 12-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/10/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

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1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-11, drawn to a process for immersion coating a filament with radiation polymerizable liquid, classified in class 427, subclass 512.
 - II. Claims 12-19, drawn to an apparatus for coating a filament and exposing it to actinic radiation, classified in class 118, subclass 620+ or 400+.

2. The inventions are independent or distinct, each from the other because:

Inventions group I and group II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus can be used for a materially different processes, because the particular coating material is not part of the apparatus, hence the liquid in the apparatus's reservoir could be liquids other than photopolymerizable liquids, such as thermosetting liquid resin or photo- or thermal-decomposable liquids. Also, the effect of the actinic radiation on the liquid applied, or in which a filament is immersed, is a method limitation, hence the apparatus could be used for a process where the radiation was employed for thermal effects, such as thermal curing or to melt or anneal a liquid coating, or the actinic radiation could cause thermal or photodecomposition of a liquid reagent to produce coating.

3. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a

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separate status in the art due to their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Gregg Rosenblatt on 5/9/2006 a provisional election was made without traverse to prosecute the invention of group I, method claims 1-11.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, in the "exposing..." step, it is uncertain where the "liquid composition" is when it is "adjacent said portion", since "adjacent" does not necessarily mean in contact with, i.e. it could be next to but not touching the portion while in the reservoir, it could be before or after immersion of the portion, it could be referring to liquid that adheres to via capillary action on the portion, etc., so the exposing could acquire during or after, or even before the immersing (there are no temporal or antecedent requirements in the claims that would limit this). From applicants figures 1-2, it appears that the exposing is intended to occur during the immersing, but this is not clear nor necessitated from the claim language.

In claim 1, "I bursting... a portion of a filament... to a depth", is somewhat unclear, in that it is uncertain what portion of the filament is at the claimed depth. As the filament is horizontal, does the depth refer to the portion of the filament on the underside or bottom, or could it be the top portion, or what portion? While this might be considered merely broad, hence not a 112 problem, it could also be

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considered a clarity issue, since it can affect what is coated, for example if the depth is where the bottom portion resides, the top may not be immersed, or if the irradiation is supposed be done during immersion (although not necessitated by the claimed language).

In claim 4, when the "adjusting said depth" occurs is unclear. Merely immersing could be considered to read on this, since the depth is changed from zero or some height above the liquid surface, to a value with a positive depth (or it hasn't been immersed), such that the depth may be considered adjusted by putting it in the liquid. In claim 5, whether the claimed "depth" is before or after the claimed adjusting is unclear.

In claim 6, the limitation "focusing radiation... in a plain adjacent to the surface of said liquid composition" is ambiguous, as it is uncertain if this means that the focal point is caused to form somewhere in this plane, or if the focus is to be made to take the shape of a plane. Note that either could be applied to the claimed location adjacent to the composition surface. Neither claims 7 or 8 clarify this issue.

6. With respect to claim 11, and the term "aspect ratio", the examiner notes that while holes may typically be described as having aspect ratios that describe the ratio of the width to the depth of the hole, applicant has provided a definition of this term with respect to their invention in the specification in the paragraph bridging pages 7-8. Specifically, "aspect ratio" was defined as "the deviation from the circular of the cross-section and circumference of a coated filament", with values between about 1.1 & about 1.5 said to indicate relatively small deviation from a circular cross-section. Claims 10 & 11 appear to be consistent with this definition.

7. Copending case to Abe et al. (6549712 B2) two overlapping inventors is of interest for recoding portions of optical fibers that have been stripped, but the patent employs mold coating, not emerging coating.

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8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-4 & 10-11 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Wakabaysahi Tetsuo (JP 09-166718).

Wakabaysahi teaches a horizontal or version coating of a bear section of an optical fiber, with a UV curable resin (abstract; figure 2; [0025]), then continued coating processing using a guy, a resin pool, then UV curing (figures 3-7; [0004]; [0007]; & [0026-31]), so as to produce substantially the same outer diameter on the coated section at the outlet from the die (for a round diameter optical fiber this is considered to inherently provide the claimed aspect ratio). UV irradiation sources are illustrated as next to or adjacent to the coated fiber having uncured coated resin on the fiber until irradiation cures it, thus reading on the claimed "adjacent" to liquid composition.

Wakabaysahi does not discuss UV source devices & parameters, however use of lenses to controlled location & intensity of applied light constitute standard procedures in UV curing or in any process where the effects of applied light are critical to the results, such that focus & distribution would have been expected by one of ordinary skill in the art to have been optimized for the shape of the coating

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being cured, hence for the taught optical fiber, the whole coating encircling the diameter would have been expected to be evenly exposed over the length of the curing zone, thus a focal plane which would produce such exposure would have been expected to be employed, and lenses are standard devices for controlling such.

While the immersion that shown in figure 2 does not illustrate a fixture for holding the optical fiber, it is highly unlikely that an optical fiber would have achieved the illustrated shape without some holding means, hence it would've been obvious to one of ordinary skill in the art to employ some means, i.e. fixture, to produce the illustrated configuration. The depth employed would have been any depth that ensures complete coverage, thus would have been inclusive of claimed depths if the measurement was from the top side of the horizontally immersed fiber.

10. Kokura et al. (6069988) cited by applicants, is noted to be cumulative to the above rejection for teaching UV curing of recoded optical fiber pair sections (column 6, line 49-column 7, line 65+), as are Ali et al. (5756165) & Cowen et al. (5636307).

Bear et al. (4338352) & Henderson (5073403) interest for showing the ability to photocure resin on optical fibers, while immersed, but employ a vertical immersion technique, not horizontal. Broome et al., Nguyen et al. & Mangum are analogous to Wakabaysahi for the configuration/curing sequence, but directed to different types of continuous substrates, such as thread, polyolefin fiber, fiberglass, respectively. Koch et al. (2002/018782) provides discussion/illustration of the importance of depth in UV curing through a bath.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne L. Padgett whose telephone number is (571) 272-1425. The examiner can normally be reached on M-F from about 8:30 a.m. to 4:30 p.m.

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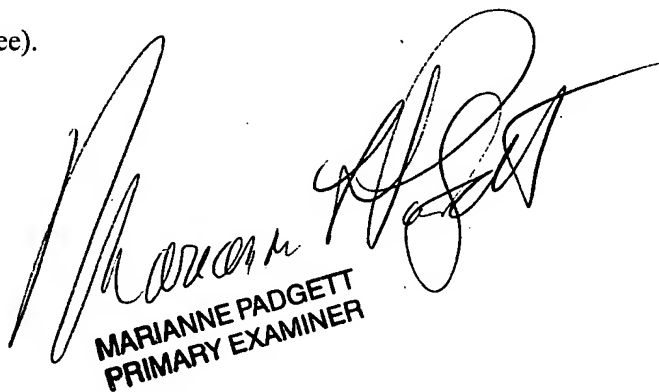
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks, can be reached at (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MLP/dictation software

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4/12/2007



MARIANNE PADGETT
PRIMARY EXAMINER